REMARKS

Claims 1-26 are pending and under consideration. Claims 1-3, 7, 10, 17, 22, 24, and 26 have been amended. Claim 14 has been cancelled. Support for the amendments to the claims can be found throughout the specification and, at least, in Paragraphs 20-21, 46, 57, 67-68 and FIGS. 10A-B. Applicants submit that the claims have been amended in compliance with 37 C.F.R. § 1.121(c) and that no new matter has been introduced by the present Amendment.

Telephonic Interview on May 30, 2008

Applicants thank the Examiner for his helpful comments during the telephonic interview on May 30, 2008. Present at the interview were David Miranda, Attorney for the Applicants, Michelle Park and Shiping Li. During the interview, the pending Office Action and independent claims and U.S. Patent No. 6,215,789 issued to Keenan et al were discussed. No agreements were reached.

Rejection of Claims 1-5, 8-9, 10-12 and 15-16 Under 35 U.S.C. § 102(b)

The Office Action states that claims 1-5, 8-9, 10-12 and 15-16 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,215,789 issued to Keenan et al. ("Keenan"). For a claim to be anticipated under 35 U.S.C. § 102(b), the reference must disclose each and every limitation in the claim. Applicants respectfully disagree with the rejection and traverse the rejection.

Amended independent claim 1 recites, in part, converting time-sensitive synchronous serial data related to a plurality of source time slots in a time-division multiplexing frame into synchronous parallel data units in accordance with a synchronous clock signal.

Keenan discloses a packet block diagram, which illustrates the format of the information carried within the reserved Constant Bit Rate (CBR) channel blocks of octets. See Col. 10, lines 19-23 and FIG. 6. Keenan also discloses user data packet encapsulation in the Type I Master Ethernet Packet. See Col. 10, lines 19-23 and FIG. 6. Keenan therefore merely discloses channel blocks in a packet reserved for Constant Bit Rate information. Keenan, however, fails to

disclose, teach, or suggest, at least, converting time-sensitive synchronous serial data into synchronous parallel data units.

Amended claim 1 also recites a first subpacket and second subpacket, the first subpacket being associated with a first source time slot in the time-division multiplexing frame and comprising an ingress queue identifier and a first destination time slot identifier and the second subpacket being associated with a second source time slot in the time-division multiplexing frame and comprising the same ingress queue identifier and a second destination time slot identifier.

Keenan discloses packet block diagram, which illustrates the timing relationship between the Constant Bit Rate (CBR) Channel carrying octets and references the start locations of the CBR channel and data carrying octet blocks within the frame. See Col. 10, lines 13-17. Specifically, Keenan discloses that blocks of the reserved octets are alternately aligned to produce a precise timing of 500 μs between every two blocks of reserved octets. See Col. 23, lines 36-39. Keenan also discloses that the payload octets between the four reserved blocks of eight octets are available for the transport of user data packets. See Col. 23, lines 42-43.

Therefore, Keenan merely discloses a timing relationship between CBR carrying octets and discloses payload octets for user data packets. Keenan, however, fails to disclose a first subpacket being associated with a first source time slot in the time-division multiplexing frame and comprising an ingress queue identifier and a first destination time slot identifier. Keenan also fails to disclose, teach or suggest, at least, a second subpacket being associated with a second source time slot in the time-division multiplexing frame and comprising the same ingress queue identifier and a second destination time slot identifier.

Amended claim 1 also recites, in part, generating a packet from a plurality of subpackets sharing the same ingress queue identifier, including the first subpacket and the second subpacket, the packet comprising a synchronization tag identifying the synchronization interval in which the first subpacket and the second subpacket were formatted.

As stated above, Keenan discloses a packet having CBR channel and data carrying octet blocks within the frame. See Col. 10, lines 13-17. Keenan, however, fails to disclose, teach or suggest, at least, generating a packet from a plurality of subpackets sharing the same ingress queue identifier, including the first subpacket and the second subpacket. Keenan also fails to disclose, teach or suggest, a synchronization tag identifying the synchronization interval in which the first subpacket and the second subpacket were formatted.

Amended claim 1 recites, in part, asynchronously transmitting the packet across the asynchronous medium packet switch. Claim 1 also recites, in part, a first buffer and a second buffer, the first buffer being associated with the first destination time slot and the second buffer being associated with the second destination time slot, the arrangement of subpackets within the first buffer and the second buffer being determined by the first synchronization interval during which the subpacket was generated plus a known fixed delay offset.

Keenan discloses that Master Ethernet Packets are generated and transmitted at a constant rate to facilitate the transmission of Constant Bit Rate (CBR) Channel information over the LAN segment. See Col. 29, lines 57-65. Keenan discloses that the CBR Channel information is encapsulated into the Master Ethernet Packet by the segmentation portion of the Ethernet Segmentation and Re-assembly (SAR) function at fixed locations within the frame." See Col. 29, lines 57-65. Keenan discloses that the receiver synchronizes to the incoming Master Ethernet Packets, extracts the CBR channel data bits from the fixed locations within the Master Ethernet Packet payload, and writes them into the storage elements of the TDM Flow Queue. See Col. 27, lines 15-19. Specifically, with Type I Master Ethernet Packet, a new series of CBR channel data bits will arrive at the receiver every 250 μs. See Col. 27, lines 22-24. In the case of the Type II Master Ethernet Packet, a new series of CBR channel data bits will arrive at the receiver every 125 μs. See Col. 27, lines 24-26.

Therefore, in Keenan, Master Ethernet packets are generated and transmitted at a constant rate and are received every 250 μs or 125 μs, where they are extracted and written into a TDM Flow Queue. In contrast, Applicants' claims recite asynchronously transmitting the packet across the asynchronous medium packet switch. Asynchronous transmission of synchronous

data associated with different time slots in a time-division multiplexing frame across a packet switch is achieved by the Applicant's claimed invention because, in part, due to the arrangement of subpackets within the first buffer and the second buffer is determined by the first synchronization interval during which the subpacket was generated plus a known fixed delay offset.

For at least one of the same reasons as stated above, Applicants respectfully submit that independent claims 2-3 and 10 are also in condition for allowance. By virtue of their dependency on independent claims 3 and 10, and the additional features recited therein, Applicants respectfully submit that claims 4-5, 8-9, 11-12 and 15-16 are also patentable and in condition for allowance.

Rejection of Claims 17-19 Under 35 U.S.C. § 102(e)

The Office Action states that claims 17-19 have been rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,466,572 issued to Etheridge et al. ("Etheridge"). For a claim to be anticipated under 35 U.S.C. § 102(e), the reference must disclose each and every limitation in the claim. Applicants respectfully disagree with the rejection and traverse the rejection.

Amended claim 17 recites, in part, synchronous time slot switching of synchronous data in a time-division multiplexing frame across the asynchronous packet switch by asynchronously transmitting packets of the synchronous data across the asynchronous packet switch, the packets comprising at least a first subpacket being associated with a first source time slot in a time-division multiplexing frame and comprising an ingress queue identifier and a first destination time slot identifier and a second subpacket being associated with a second source time slot in a time-division multiplexing frame and comprising the same ingress queue identifier and a second destination time slot identifier.

Ethridge discloses a technique for multiplexing high speed computed data with digitized voice signals onto a fiber optic cable for transfer to a local central office. (See Ethridge at Abstract). Ethridge discloses that PCM, DS1 and PC data packets can be efficiently multiplexed

together and transported on a single line to the central office 20, where such signals are then separated from each other. (See Ethridge at Col. 10, lines 23-27). Ethridge discloses an optical channel shelf that separates the PCM voice signals from the computer data packets. (See Ethridge at Col. 12, lines 27-31 and 49-51). The PCM voice data separated from the data packets is coupled on a PCM bus to PCM channel equipment 78 or other PCM equipment adapted for transmitting such type of data. (See Ethridge at Col. 13, lines 17-41). With regard to data packets, the optical maintenance unit 62 temporarily stores such data packet and retransmits the data packet to the Ethernet Switch. (See Ethridge at Col. 15, lines 3-8).

Therefore, Ethridge merely teaches separating PCM data from packet data, coupling the PCM data on to PCM equipment and transmitting packet data to an Ethernet Switch. In contrast, Applicant's claimed invention recites synchronous time slot switching of synchronous data in a time-division multiplexing frame across the asynchronous packet switch.

Applicants respectfully submit that Etheridge also fails to disclose, teach or suggest, at least, a first subpacket being associated with a first source time slot in a time-division multiplexing frame and comprising an ingress queue identifier and a first destination time slot identifier and a second subpacket being associated with a second source time slot in a time-division multiplexing frame and comprising the same ingress queue identifier and a second destination time slot identifier.

By virtue of their dependency on independent claim 17, and the additional features recited therein, Applicants respectfully submit that claims 18-19 are also patentable and in condition for allowance.

Rejection of Claims 6-7, 13-14 and 26 Under 35 U.S.C. § 103(a)

The Office Action states that claims 6-7, 13-14 and 26 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Keenan in view of "Reliable Multicast Transport Building Block: Multirate Congestion Control" by Luby ("Luby"). For the rejection under 35 U.S.C. § 103(a) to be proper, the references, alone or in combination, must teach or suggest all of

the claim limitations. Applicants respectfully disagree with the rejection and traverse the rejection.

Amended claim 26 recites, in part, a plurality of subpackets comprising at least a first subpacket associated with a first source time slot in a time-division multiplexing frame and comprising an ingress queue identifier and a first destination time slot identifier and a second subpacket associated with a second source time slot in a time-division multiplexing frame and comprising the same ingress queue identifier and a second destination time slot identifier. Claim 26 also recites that the plurality of subpackets contain parallel data derived from a synchronous serial data stream, each subpacket constructed during a common synchronization interval.

Keenan discloses a packet block diagram, which illustrates the format of the information carried within the reserved Constant Bit Rate (CBR) channel block of octets and also discloses an example of user data packet encapsulation in a Master Ethernet Packet. See Col. 10, lines 30-34; FIG. 8. Therefore, Keenan merely discloses reserved CBR channel block of octets and user data packet encapsulation in a packet. Keenan, however, fails to disclose a first subpacket associated with a first source time slot in a time-division multiplexing frame and comprising an ingress queue identifier and a first destination time slot identifier. Keenan also fails to disclose a second subpacket associated with a second source time slot in a time-division multiplexing frame and comprising the same ingress queue identifier and a second destination time slot identifier. Applicants also respectfully submits that Keenan fails to disclose, teach or suggest, that each subpacket is constructed during a common synchronization interval.

Amended claim 26 recites, in part, a synchronization tag identifying the common synchronization interval during which the plurality of subpackets were constructed and data identifying the number of subpackets contained within the data structure. Amended claim 26 also recites, in part, context data associated with each one of the plurality of subpackets, the context data including the first destination time slot identifier corresponding to the first source time slot in a time-division multiplexing frame associated with the first subpacket and a second destination time slot identifier corresponding to the second source time slot in the time division multiplexing frame associated with the second subpacket.

Applicants respectfully submit that Luby does not remedy the deficiencies of Keenan. Briefly, Luby discloses a multicast approach that allows multiple receivers to concurrently receive packets from a single sender at varying rates depending on individual bandwidth connections and network conditions. (See Luby at Abstract). Luby discloses that "[t]he sender partitions time into equal duration intervals called time slots. The time slot duration TSD determines the reaction time of receivers to changing network congestion conditions . . . . Associated with each time slot is the time slot index." (See Luby at 6). Luby also discloses that the sender places consecutive sequence numbers in the packets sent to a group and that the sequence numbers ignore time slot boundaries. (See Luby at 7).

Therefore, the time slot index as disclosed in Luby is related to the reaction time or receivers to changing network conditions. The sequence numbers of the packets in Luby also ignore the time slot boundaries. In contrast, Applicants' claimed invention recites, in part, a synchronization tag identifying the common synchronization interval during which the plurality of subpackets were constructed. Applicants also respectfully submit that the time index as disclosed in Luby are not context data including the first destination time slot identifier corresponding to the first source time slot in a time-division multiplexing frame associated with the first subpacket and a second destination time slot identifier corresponding to the second source time slot in the time division multiplexing frame associated with the second subpacket.

By virtue of their dependency on independent claims 3 and 10, and the additional features recited therein, Applicants respectfully submit that claims 6-7 and 13 are also patentable and in condition for allowance.

Rejection of Claims 20-23 Under 35 U.S.C. § 103(a)

The Office Action states that claims 20-23 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Etheridge further in view of Keenan and Luby. For the rejection under 35 U.S.C. § 103(a) to be proper, the references, alone or in combination, must teach or suggest all of the claim limitations. Applicants respectfully disagree with the rejection and traverse the rejection.

As stated above Etheridge fails to disclose, teach or suggest, each and every element of independent claim 17 from which claims 20-23 depend. As stated above, neither Keenan nor Luby remedy the deficiencies of Etheridge. Applicants respectfully submit that Etheridge, Keenan and Luby, either alone or in combination, render claims 20-23 unpatentable.

Rejection of Claims 24-25 Under 35 U.S.C. § 103(a)

The Office Action states that claims 24-25 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Etheridge in view of Keenan. For the rejection under 35 U.S.C. § 103(a) to be proper, the references, alone or in combination, must teach or suggest all of the claim limitations. Applicants respectfully disagree with the rejection and traverse the rejection.

As stated above Etheridge fails to disclose, teach or suggest, each and every element of independent claim 17 from which claims 24-25 depend. As stated above, Keenan fails to remedy the deficiencies of Etheridge. Applicants respectfully submit that Keenan and Etheridge, either alone or in combination, do not render claims 24-25 unpatentable.

CONCLUSION

Applicants' discussion of particular positions of the Examiner does not constitute a concession with respect to any positions that are not expressly contested by the Applicants. Applicants' emphasis of particular reasons why the claims are patentable does not imply that there are not other sufficient reasons why the claims are patentable nor does it imply the claims were not allowable in their unamended form.

In view of the foregoing remarks and the inability of the prior art, alone or in combination to anticipate, suggest, or make obvious the subject matter as a whole of the invention disclosed and claimed in this application, all claims are submitted to be in a condition for allowance, and notice thereof is respectfully requested. If the Examiner feels that a telephone conference would expedite the prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

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